



Omega-III Salmon Oil Plus™: Human Clinical Trials Display the Amazing Powers of this Leading Edge Product!

As presented at
Experimental
Biology 2008

Recently completed human clinical trials on GNLD's exclusive Omega-III Salmon Oil Plus have established a new standard for omega-3 supplementation performance and confirm the powerful benefits this product can provide. Conducted under the guidance of GNLD Scientific Advisory Board (SAB) member, Dr. Arianna Carughi, this 8-week, dietary intervention study looked at the effects of GNLD's Omega-III Salmon Oil Plus on cellular omega-3 status and its effect on markers of cardiovascular disease risk factors and inflammation. The results show beyond a doubt that not only is Omega-III Salmon Oil Plus readily bioavailable and utilized by the body, it significantly reduces cardiovascular disease risk factors, increases omega-3 values in red blood cell membranes, and lowers tendencies towards inflammation and inflammatory conditions.



BACKGROUND

The importance of omega-3 fatty acids to health, vitality and longevity has been a topic of investigation for decades. From the initial discoveries of the 1960's and 1970's to direct confirmation studies such as this one from GNLD, it is beyond a doubt that omega-3 fatty acids play vitally important roles in human health.

Through epidemiological research (the study of large populations) science has shown that huge portions of the population don't get enough of these "good fats" while similarly huge portions get way too much of "bad fats." The fundamental imbalance that results from this nutritional reality has been directly associated with an increase in cardiovascular disease risk and has been shown to bias the body's biochemistry toward a "pro-inflammatory" state, increasing the risk of disease and accelerating aging.

Targeted by the World Health Organization (WHO), the Centers for Disease Control and Prevention (CDC), and many other world leading health authorities, increasing the omega-3 fatty acid content of the diet is a critical component in solving the chronic disease epidemic that the world is facing.

GNLD's world renowned SAB has known for decades that the only viable solution for the average person to achieve the nutritional abundance of omega-3 fatty acids needed for long-term health and vitality would be a combination of foods and whole food supplements. This clinical trial confirms that Omega-III Salmon Oil Plus is highly effective at fulfilling that need and supporting both cardiovascular and overall health.

THE RESULTS

- **Proven bioavailability and assimilation:**
 - Increases levels of EPA, DHA and DPA in red blood cell membranes
- **Proven cardiovascular health benefits:**
 - Lowers Triglycerides more than 17% in just 8 weeks
 - Raises total omega-3 index to levels associated with the "zone of greatest protection" from cardiovascular disease
- **Proven anti-inflammatory benefits:**
 - Increases anti-inflammatory omega-3: omega-6 balance
 - Displaces inflammatory Arachidonic Acid from red blood cell membranes
 - Lowers Inflammatory Index, indicating a reduced risk of inflammation and inflammatory conditions

The STUDY:

Using 31 healthy adult subjects (16 women and 15 men) aged 35 to 65 years and following a clinical dietary intervention protocol pre-approved by an external review board, the study looked at the effects of dietary supplementation of 3 capsules per day of Omega-III Salmon Oil Plus over a period of 8 weeks. Samples were taken at baseline (start), after 4 weeks, and after 8 weeks. All blood sample collection, analysis, and statistical review was carried out by independent parties.

PROVEN **BIOAVAILABILITY** AND ASSIMILATION

In general it is assumed that omega-3 supplements would be bioavailable. However, the degree of bioavailability and rapidity of uptake is an important indicator of functional benefits. In this study, Omega-III Salmon Oil Plus was shown to be readily bioavailable and rapidly assimilated into cell membranes. The greatest increases in EPA, DHA and DPA occurred within the first 4 weeks, but continued throughout the 8-week study period.

PROVEN **HEART-HEALTHY** SUPPLEMENTATION

Lowers Triglycerides



Figure 1

Blood triglyceride (TG) levels are an important indicator of cardiovascular health and disease risk. In general the lower the number, the lower the disease risk. Though the majority of the subjects entered the study with TG levels that would be considered in the safe range, (below 150mg/dL), it is important to note that Omega-3 Salmon Oil Plus still caused a significant TG reduction, an average of 17%.

It is important to note that the greatest benefit was shown for those in the study with the highest TG levels at the start (baseline). The largest effect was for an individual with TG values of 436 at baseline dropping to 210 after just 8 weeks—a 52% improvement!

PROVEN **ANTI-INFLAMMATORY** SUPPLEMENTATION

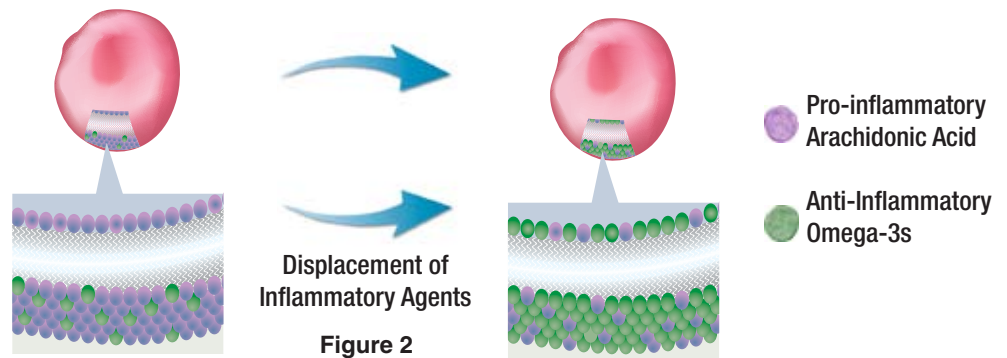


Figure 2

It is well established in scientific literature that inflammation is one of the driving forces behind aging and disease. The effects of low-level inflammation of cells and tissues amplified by long periods of time have been directly implicated in the epidemic of chronic disease that is seen across the world today. This trial shows that supplementation with Omega-III Salmon Oil Plus works rapidly and dramatically to rebalance these forces by

increasing anti-inflammatory omega-3's and displacing inflammatory Arachidonic Acid.

Increased Anti-Inflammatory Omega 3:6 Balance

This study shows that supplementation with Omega-III Salmon Oil Plus provided a more than 25% improvement in anti-inflammatory omega-3 to omega-6 balance in just 4 weeks—and more than 30% in just 8 weeks!

RESULTS

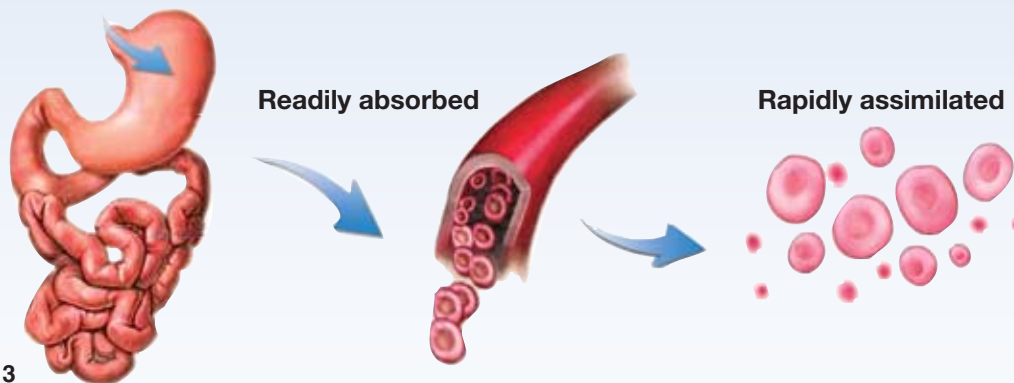


Figure 3

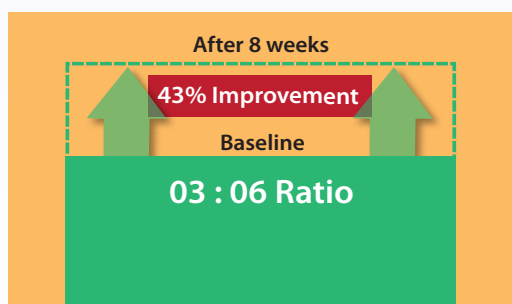


Figure 4

Improves O-3 to O-6 Ratios

The relative ratio of omega-3 fatty acids to their omega-6 counterparts is another indicator of risk to cardiovascular health. Low levels of omega-3 fatty acids have been directly associated with increased risk of cardiovascular disease, while high levels of omega-3 indicate lower risk of disease. Supplementation with Omega-III Salmon Oil Plus showed a 43% improvement in the Omega 3:6 ratio.

Raises Cardio Protective Total Omega-3 Index

One's omega-3 index is a physiologically relevant indicator of risk for death from heart disease. It is a leading-edge means of looking into

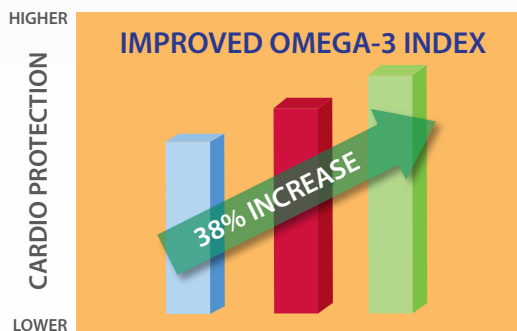


Figure 5

between this omega-3 index and the risk of cardiac arrest.

Omega-III Salmon Oil Plus supplementation caused a rapid and significant increase in omega-3 index after both 4 weeks and 8 weeks supporting a corresponding reduction in risk of sudden cardiac death.

one's cardio-health future. Three recent population studies published in the *New England Journal of Medicine*, *Journal of American Medical Association*, and *American Journal of Clinical Nutrition*¹ showed a direct inverse relationship

Displaced Pro-Inflammatory Arachidonic Acid From Red Blood Cell Membranes

Arachidonic Acid (AA) is a known promoter of inflammation in cells and tissue when too much of it is present in cell membranes. It plays a key role, therefore, in inflammation and the resultant accelerated aging and increased disease risk. This study showed that Omega-III Salmon Oil Plus was able to displace AA intrusion in cell membranes by 9.6% in just 8 weeks—an important indicator of yet another one of its health promoting properties.

Lowered Inflammatory Index Indicating a Reduced Risk of Inflammation and Inflammatory Conditions

Inflammatory Index (II) is an indicator of one's current tendency towards inflammation and inflammatory conditions. It is an emerging biomedical tool that helps doctors and other health professionals look into one's health or disease-risk future.

It's determined through a series of medical tests, analysis, and calculations, then assigned a value as an indication of

relative risk. The higher the number assigned, the greater the relative risk.

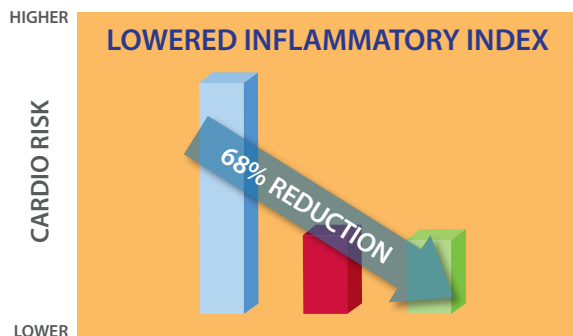


Figure 6

In this study, even though all subjects were considered healthy they entered with an average II of 2.5. After 4 weeks of supplementation, the average II value dropped by 60% to 1.0, and dropped further to 0.8 at the 8-week point.

1. Campos, Albert CM, H, Stampfer MJ. "Blood Levels of Long-Chain N-3 Fatty Acids and The Risk Of Sudden Death." NEJM, 346 (2002):1113-8
Siscovick DS, Raghunathan TE, King I et al. "Dietary Intake and Cell Membrane Levels of Long Chain Omega-3 Polyunsaturated Fatty Acids and The Risk Of Primary Cardiac Arrest." JAMA , 274 (1995):1363-7
Lemaitre RN, King IB et al. "N-3 Polyunsaturated Fatty Acids, Fatal Ischemic Heart Disease and Non-Fatal Myocardial Infarction in Older Adults: The Cardiovascular Health Study." AJCN, 76 (2002):941-6

Omega III Salmon Oil Plus Hits the “Zone of Greatest Protection”—a superb Omega-3 Index!

From years of investigating the relationship between omega-3 fatty acid levels and cardiovascular disease risk, researchers have established a scale of protection based on omega-3 index. Derived from data resulting from 7 large studies, this scale of protection uses omega-3 index values between 0 and 10% and makes two important points. First, the “zone of greatest protection” for omega-3 index is in the range between 6.5% to 9.5%. The higher the value assigned, the greater the protection. Second, what appear as small movements in omega-3 index values deliver big benefits in cardio protection. Data extracted

from the Cardiovascular Health Study (*Journal of the American Medical Association* 274; 1363-1367) and analyzed by investigators Harris and Von Schacky (*Preventive Medicine* 39, 2004; 212-230) showed that a 2% increase from 6.5% to 8.5% equated to a 70% reduction of risk of a fatal heart attack!

Data from this Omega-III Salmon Oil Plus study showed that after just 8 weeks of supplementation, omega-3 index values rose from 6.24% to 8.5%, displaying a huge increase in protection, hitting directly in the center of the zone of greatest protection!

THREE CASE STUDIES SPOTLIGHT OMEGA-III SALMON OIL PLUS EFFECTIVENESS

A HEALTHY WOMAN WHO DOES NOT EAT FISH

	Baseline	After 4 Weeks	After 8 Weeks
% Omega-3	4.9	8.0	9.3
% DHA	2.7	4.6	5.4
% EPA	0.34	1.18	1.65
% AA	22	19	19
Omega-3 Index	3.04	5.78	7.05
Inflammatory Index	6.0	2.0	1.0

A HEALTHY MAN WHO EATS FISH ONCE A WEEK

	Baseline	After 4 Weeks	After 8 Weeks
% Omega-3	7.3	8.2	14.9
% DHA	4.5	5.0	9.0
% EPA	0.47	0.96	2.12
% AA	21	19	19
Omega-3 Index	4.97	5.96	11.12
Inflammatory Index	4.0	2.0	1.0
Triglycerides	270	–	197

A HEALTHY MAN WITH HIGH BASELINE TRIGLYCERIDES LEVEL

	Baseline	After 8 Weeks
% Omega-3	7.3	10.0
Omega-3 Index	3.54	7.24
Triglycerides	436	210

WHAT DOCTORS & RESEARCHERS ARE SAYING...

To me this new GNLD research highlights two important points: The first is the amazing importance of omega-3 fatty acids to human health and the powerful benefits that this well formulated, whole-food supplement can provide. The second is that once again GNLD has stepped to the forefront with product performance validation that only the most responsible, dedicated, companies ever attempt. It's further assurance to everyone that GNLD continues to provide the supplements you can rely on in the pursuit of lifelong health and vitality.

–John Miller, SAB member

If ongoing low-grade chronic inflammation is the likely background for age-related diseases, (Exp Gerontol. May 31, 2005) then this pilot study strongly suggests that a full factor omega-3 supplement, with all 8 omega-3s, can provide a safe solution to the postulates that anti-inflammatory mechanisms become less efficient with age and that the inflammatory switch becomes ‘stuck on’ with age. Omega-III Salmon Oil Plus, turns off the ‘stuck’ inflammatory switch.

–Bruce J. Dewe, MD, NZRK, MICAK, HPC member

The GNLD salmon oil study provides exciting and quantifiable information about the supplement’s potential ability to provide anti-inflammatory support in the control of cardiovascular disease and chronic joint problems.

–Dr. Gordon Newell, Biochemist, Toxicologist, SAB member

Here is another example of how GNLD takes a further step to ensure the efficacy of their products. Not only do they use the highest technology of molecular differentiation to make sure the products contain the high purity and potency of all eight members of the omega-3 family, GNLD also confirms with human studies that these beneficial omega-3’s are actually incorporated into our cell membranes and are leading to beneficial effects in both cardiovascular risk reduction and reducing inflammation. GNLD takes the safety and efficacy of their products seriously; that is why I trust their products for myself and my family.

–Jannet Huang, M.D. FRCPC, FACE, ABHM, HPC member